

Claims:

1. A holographic data storage medium comprising:
a first injection molded thermoplastic substrate portion having a thickness less
5 than approximately 2 millimeters and greater than 0.5 millimeters,
a second injection molded thermoplastic substrate portion having a thickness less
than approximately 2 millimeters and greater than 0.5 millimeters, and
a holographic recording material between the first and second injection molded
thermoplastic substrate portions.
10
2. The holographic data storage medium of claim 1, wherein the first and second
injection molded thermoplastic substrate portions are made of at least one of the
following: polycarbonate, polymethylmethacrylate, and amorphous polyolefin.
- 15 3. The holographic data storage medium of claim 1, wherein the holographic
recording material is a photopolymer.
4. The holographic data storage medium of claim 1, wherein the medium is one of a
disk and a card.
20
5. The holographic data storage medium of claim 1, wherein the first and second
injection molded thermoplastic substrate portions have thicknesses less than or equal to
approximately 1.2 millimeters.
- 25 6. The holographic data storage medium of claim 1, wherein the first and second
injection molded thermoplastic substrate portions have thicknesses less than
approximately 0.6 millimeters.

7. The holographic data storage medium of claim 1, wherein the first and second injection molded thermoplastic substrate portions have thicknesses equal to approximately 0.6 millimeters.
- 5 8. The holographic data storage medium of claim 1, wherein the holographic recording material has a thickness of approximately 1 millimeter.
9. The holographic data storage medium of claim 1, wherein the first and second injection molded thermoplastic substrate portions have a thickness less than 1.3
10 millimeters and greater than 0.5 millimeters.
10. A holographic data storage system comprising:
a laser that produces at least one laser beam;
optical elements through which the laser beam passes;
15 a data encoder that encodes data in at least part of the laser beam;
a holographic recording medium that stores at least one hologram, the holographic recording medium comprising:
a first injection molded thermoplastic substrate portion having a thickness less than approximately 2 millimeters and greater than 0.5 millimeters,
20 a second injection molded thermoplastic substrate portion having a thickness less than approximately 2 millimeters and greater than 0.5 millimeters, and
a holographic recording material between the first and second injection molded thermoplastic substrate portions.
- 25 11. The holographic data storage system of claim 10, wherein the data encoder comprises a spatial light modulator and the data detector comprises a camera.
12. The holographic data storage system of claim 10, wherein the first and second injection molded thermoplastic substrate portions are made of at least one of the
30 following: polycarbonate, polymethylmethacrylate, and amorphous polyolefin.

13. The holographic data storage system of claim 10, wherein the holographic recording material is a photopolymer and the medium is one of a disk and a card.

5 14. The holographic data storage system of claim 10, wherein the first and second injection molded thermoplastic substrate portions have thicknesses less than or equal to approximately 1.2 millimeters.

10 15. The holographic data storage system of claim 10, wherein the first and second injection molded thermoplastic substrate portions have thicknesses less than or equal to approximately 0.6 millimeters.

16. The holographic data storage system of claim 10, wherein the holographic recording material has a thickness of approximately 1 millimeter.

15

17. The holographic data storage system of claim 10, wherein the first and second injection molded thermoplastic substrate portions have a thickness less than 1.3 millimeters and greater than 0.5 millimeters.

20 18. A holographic data storage medium having a thickness less than approximately 5 millimeters, and greater than approximately 2.0 millimeters, the holographic data storage medium including injection molded thermoplastic substrates each having a thickness less than approximately 2 millimeters and greater than 0.5 millimeters.

25 19. The holographic data storage medium of claim 18, wherein the medium has a thickness less than or equal to approximately 3.4 millimeters.

20. The holographic data storage medium of claim 18, wherein the medium has a thickness less than or equal to approximately 2.2 millimeters.

30

21. The holographic data storage medium of claim 18, wherein the medium has a thickness less than 3.6 millimeters and greater than 2.0 millimeters.